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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,146	07/29/2003	James Ruion Young Rawson	RD-29279	6569

6147 7590 04/30/2007

GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH
PATENT DOCKET RM. BLDG. K1-4A59
NISKAYUNA, NY 12309

EXAMINER	
PATEL, RITA RAMESH	
ART UNIT	**PAPER NUMBER**
1746	

MAIL DATE	DELIVERY MODE
04/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/629,146	RAWSON ET AL.	
	Examiner	Art Unit	
	Rita R. Patel	1746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,10,11,13-23,25,30,31 and 35-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10,11,13-23,25,30,31 and 35-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/6/07 has been entered.

Response to Applicant's Arguments / Amendments

This Office Action is responsive to the amendment filed on 2/6/07. Claims 1-8, 10-11, 13-23, 25, 30-31, and 35-50 are currently pending. Claims 1-2, 6-7, 10, 13-14, 18, and 21 have been amended. Claims 9, 12, 24, 26-29, and 32-34 have been cancelled. Claims 35-50 have been added. Applicant's arguments have been fully considered and are persuasive in light of Applicant's claim amendments; therefore, former 35 USC 103 rejections are no longer applied.

It is noted that on page 1, paragraph 1 of Applicant's Remarks filed 2/6/07, Applicant states that claims 26-29 are pending, however, upon further scrutiny of the claims filed 2/6/07 it is indicated that these claims are cancelled, also no claims language has been provided in the most recent submission of said claims on 2/6/07.

Therefore, claims 26-29 are considered cancelled and will not be examined on the merits.

After further search and consideration, the instant claims are rejected under new grounds of rejections and thus, claims 1-8, 10-11, 13-23, 25, 30-31, and 35-50 are finally rejected for the reasons of record.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-4, 6, 13, 15-16, 18, 35-37, 40-41, and 45-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Severns et al. herein referred to as "Severns" (US Patent No. 6, 691, 536).

Severns teaches a washing apparatus for refreshing/cleaning articles therein (article cleaning apparatus); this device includes a air circulation system comprising a suction blower 31 and a duct 32 connecting the blower to a heater 33 (col. 13, lines 59-61) (air management mechanism), and a tub within access opening 58 formed by walls 65, 66 (cleaning basket assembly). Severns teaches a way to remove contaminants by means of membrane evaporation technologies, namely, an ultrafiltration system (col. 13, lines 14-16) (ultrafiltration filter). Also, on the front panel 71 is the apparatus controller 81 (controller). The controller 81 is responsible for the timing and sequencing

of the various process steps involved in using the apparatus; for example, it controls the amount of cleaning fluid delivered to the fabric articles, and at what speed the drum is spun at, how long the fabric articles tumbles for, etc. Moreover the controller 81 has provisions for the operator/consumer to enter directly relevant information about the fabric articles being cleaned and/or the type of cleaning desired (col. 18-19, lines 60-67 and 1-3). The connecting duct 35 is equipped with a VOC sensor to monitor vapor concentration in the air steam exiting the drum 2. The VOC sensor transmits signal proportional to vapor concentration to the machine controller. Depending on the magnitude of the signal, the controller either continues, stops, or selects a new cycle (col. 17, lines 17-22). Severn's controller 81 reads on Applicant's recitation of a controller in communication with the cleaning basket, fluid processing mechanism, and air management mechanism.

Severns discloses the claimed invention except for a specific mesh size, pore size, and operability relative to molecular weight of the contaminants for the ultrafiltration filter and its sub-components, however, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the mesh size, pore size and/or passable molecular weight for said filter, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Applicant's claimed features are regarded as result effective variables because as the filter's mesh size, pore size or molecular weight capacity are attuned the filter will applicably allow more or less of the solution to pass there through, therefore, depending on the desired

filtering expectations these features may be optimized. Optimizing a specific mesh size, pore size or operability relative to molecular weight for the ultrafiltration filter aids in purification of liquid passing therethrough, and eliminates choking in the apparatus and thereby overflow of liquid. Additionally, optimization of said ultrafiltration filter is a result-effective modification based on the size of the apparatus; it is an obvious variant to adjust depending on the size of the device/liquid flow required through the machine.

Severns teaches the use of solvent cyclic siloxane (col. 16, line 26), which reads on Applicant's claims for a siloxane based cleaning fluid.

Re claims 45-47, Severns's teaches recirculation/regeneration, as well as an adsorption agent (adsorption media) in which cleaning fluid passes sequentially through said ultrafiltration device and adsorption media (col. 15, lines 34-35).

Severns also discloses fluid reservoirs in the appliance can in general be stocked with much more fluid than is used in a single pass, and the appliance may fully or partially recycle fluid from pass to pass and/or have multiple passes (cols. 19-20, lines 67 and 1-4); this reads on Applicant's claims for a reservoir for the cleaning fluid.

Claims 2 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Severns as applied to claims 1 and 13 above, and further in view of Gordon (US Patent No. 6,875,364).

Severns teaches recovery system 15 can be self-cleaning; collected dissolved non-cleaning fluid components can either then be disposed of by removal to domestic sewage or by collection in a separate location where the collected dissolved non-

cleaning fluid components may conveniently be disposed of (col. 13. lines 23-29). However, Severns fails to specify if this type of self-cleaning is a flushing system. One of ordinary skill would have at once envisaged employing a flushing device to perform self-cleaning to a liquid filtering device. Gordon supplants the concept of a liquid filtering device with a flushing system by teaching a self-cleaning, back-washable (flushing system), ultrafiltration apparatus that provides cleaning by fluid bursts from the perforation which impinge upon the interior surfaces of a filter sock and dislodge or expel entrapped particulate material (Abstract). In Gordon, each filter apparatus 112 has a filter element 134 to screen out unwanted dissolved or suspended particles. The filter element 134 includes a membrane suitable for particle filtration, microfiltration, ultrafiltration, nanofiltration, or reverse osmosis (col. 8, lines 15-17 and 22-25). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the flushing system of Gordon in Severns to achieve a self-cleaning means for ultrafiltration filters, as taught to be known in the art by Gordon.

Claims 5, 17, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Severns as applied to claims 4, 16, and 37 above, and further in view of Rasmussen (US Patent No. 6,857,162).

Severns teaches the claimed invention except for an ultrafiltration membrane of a spiral configuration. Rasmussen teaches a cleaning and/or treatment device wherein a filter unit comprises at least one cross-flow filter whereby said filter preferably is a membrane filter (Abstract). The membrane filter disclosed by Rasmussen is preferably

packed in a flat, spiral wound, tubular fiber configuration (col. 5, lines 17-18). Rasmussen's disclosure reads on an article cleaning apparatus, hence, this reads on Applicant's claims wherein said ultrafiltration membrane is a spiral wound configuration. It would be obvious to one of ordinary skill in the art at the time of the invention to incorporate a spiral ultrafiltration membrane in Berndt, as shown by Rasmussen, to achieve desirable filtering and purification means in an ultrafiltration membrane.

Claims 7-8, 10-11, 19-23, 25, 30-31, 39, and 42-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Severns as applied to claims above, and further in view of Luehmann et al. herein referred to as "Luehmann" (US Pub. No. 2003/0034305).

Severns discloses the claimed invention, including that the filter element can be a cartridge support (col. 15, line 31) made-up of a synthetic plastic (col. 16, lines 20-21), but Severns fails to disclose the specific components of this filter cartridge.

However, the invention of Luehmann relates to water supply system adapted for supplying purified water to one or more water using devices, some of which having distinctive water consumption demands (Para. [0001]). It is disclosed that the Luehmann apparatus utilizes ultrafiltration devices, namely a hollow fiber cartridge filter 70 (Para. [0062-0063]) (particulate/cartridge filter). Luehmann also teaches the purification ultrafiltration invention to serve as a recirculation system, therefore, these filters also read on Applicant's recitation for a regeneration cartridge because it recycles liquid through the system. The filter 70 is also disclosed to include mechanical

processing means (Para. [0035]) (mechanical filter). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate these specific filter cleaning components of the washing apparatus to supply water to a high demand system using an ultrafiltration means. It is known in the art to provide multiple filtering/cleaning means in ultrafiltration devices to achieve good water and waste separation (purification) and thus recycle only cleansed liquid throughout the system.

Re claim 21, Luehmann teaches the cartridge filter is made-up of polysulphone (Para. [0046]) (thermoplastic).

Re claims 8, 11, 20, 23, 30-31, and 42-44, as taught supra in the 35 USC 103 rejection over Severns, it would have been obvious to one of ordinary skill in the art at the time of the invention to also optimize mesh size, pore size, and operability relative to molecular weight of the contaminants for the particulate, mechanical, and cartridge filters.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rita R. Patel whose telephone number is (571) 272-8701. The examiner can normally be reached on M-F: 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

rrp

MICHAEL BARR
SUPERVISORY PATENT EXAMINER